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Understanding Sepsis

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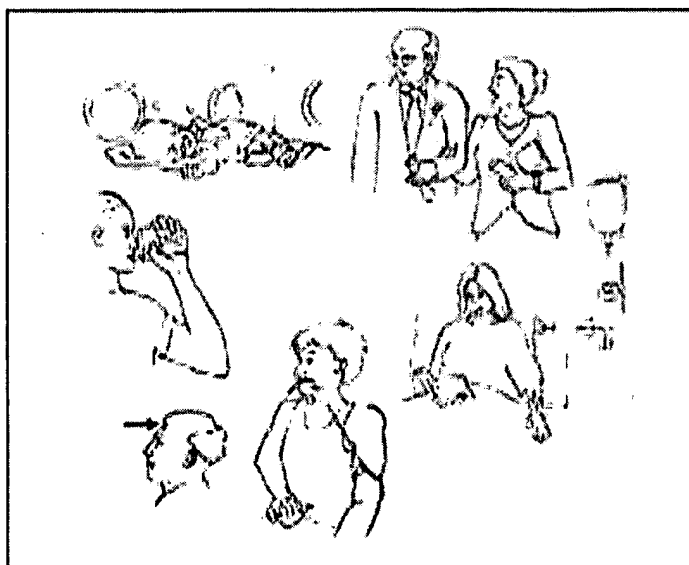
WHAT IS SEPSIS?

Sepsis can be defined as the body's response to an infection. An infection is caused by microorganisms or "germs" (usually bacteria) invading the body, and can be limited to a particular body region (e.g., a tooth abscess) or can be widespread in the bloodstream (often called "septicemia" or "blood poisoning").

WHO IS AT RISK?

Although everybody is at potential risk of developing sepsis from minor infection: (e.g., 'flu, urinary tract infections, gastroenteritis, etc.), sepsis is most likely to develop in people who:

- Are very young (e.g. premature babies) or very old
- Have a weakened ("compromised") immune system, often because of treatments such as chemotherapy for cancer, steroids (e.g. cortisone) for inflammatory conditions, etc.
- Have wounds or injuries, such as those from burns, a car crash, or a bullet
- Have certain addictive habits, such as alcohol or drugs
- Are receiving certain treatments or examinations (e.g., intravenous catheter [a small tube for dripping fluids into the vein], wound drainage, urinary catheters [a small tube inserted into the bladder])
- Are more prone to develop sepsis than others because of genetic factors (their "genes")



Patients who are admitted to the hospital with serious diseases are at the highest risk of developing sepsis because of:

- Their underlying disease
- Their previous use of antibiotics
- The presence of drug-resistant bacteria in the hospital
- The fact that they often require an intravenous tube, urinary catheter, or wound drainage

The infection leading to sepsis can be acquired outside the hospital (known as "community-acquired") or in the hospital (known as "nosocomial"). Hospital-acquired infections are generally more difficult to manage than those acquired in the community, because:

- The infecting microorganism is more dangerous to the patient
- The patient is often already sick
- ~~The microorganism may be resistant to common treatments due to the~~ widespread use of antibiotics in hospitals

IS THE OCCURRENCE OF SEPSIS INCREASING OVER TIME?

Yes, sepsis is becoming more common, especially in the hospital, as a result of:

- Medical and technological advances associated with treatments
- The increasing number of elderly or debilitated people, and patients with underlying diseases such as cancer, who require therapy
- The widespread use of antibiotics, which encourages the growth of drug-resistant microorganisms

ARE THERE MANY FORMS OF SEPSIS?

Sepsis occurs in three different forms or stages, called:

- Uncomplicated sepsis
- Severe sepsis
- Septic shock

The disease progresses in some people through all three stages. Despite optimal (best or most favorable) care, some patients may not respond to treatment, and develop multiple organ disease and eventually die.

UNCOMPLICATED SEPSIS

Uncomplicated sepsis, such as that caused by 'flu and other viral infections, gastroenteritis, or dental abscesses, is very common and is experienced by millions of people each year. The majority of these people will not need hospital treatment.

SEVERE SEPSIS

We estimate that more than 750,000 individuals develop severe sepsis in North America each year, with similar estimates for Europe, and all need to be actively treated in the hospital. Severe sepsis arises when sepsis occurs in combination with problems in one or more of the vital organs, such as the heart, kidneys, lungs, or liver.

Because of problems with their vital organs, people with severe sepsis are likely to be very ill and are more likely to die (in 30–35 % of cases) than those with uncomplicated sepsis.

SEPTIC SHOCK

Septic shock occurs when sepsis is complicated by low blood pressure that does not respond to standard treatment (fluid administration) and leads to problems in one or more of the vital organs as described above. The condition means that the body does not receive enough oxygen to properly function and drugs called vasopressors are used to raise the blood pressure. Septic shock patients are very ill and need rapid emergency admission to the hospital intensive care unit ("ICU"). Despite all treatment in the ICU, the death rate is around 50%.

These materials are furnished courtesy of the International Sepsis Forum
